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Reply to Office Action of November 28, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions and listing of claims in the application.

Listing of Claims:

1-11. (Canceled)

12. (Currently Amended) A network storage virtualization method ~~according~~

~~to claim 11,~~ in a network storage system having a plurality of network storage

devices, said method comprising:

allowing a client connected via a network to access the network storage

devices as one virtual network storage system; and

permitting said client to access the network storage devices separate from

said virtualized network storage system,

wherein a first network storage device includes a disk interface (I/F) which is

connected to an apparatus having a function of forming said network storage devices

as one virtual network storage device,

wherein a second network storage device includes a disk I/F which is

connected to said apparatus having a function of forming said network storage

devices as one virtual network storage device and a host I/F which is connectable to

an external device so as to permit said external device to access the network storage

devices separate from said apparatus having a function of forming said network

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storage devices as one virtual network storage device,

    wherein said external device is permitted to access a secondary volume which is a copy of a primary volume and not permitted to access volumes other than said secondary volume, and

    further comprising the step of configuring access control of said secondary volume from outside of said apparatus having a function of forming said network storage devices as one virtual network storage device,

    wherein said configuring step comprises the steps of:

    creating a mirroring pair between said primary volume and said secondary volume at a certain point in time by taking a complete initial copy of said primary volume and storing said complete initial copy in said secondary volume;

    receiving in said second storage device a suspend request;

    placing the mirroring pair into a suspend status to permit setting of the access control according to user selection;

    if the user chooses a read only mode, setting said secondary volume to the read only mode for input/output (I/O) requests from said external device and re-synchronizing the mirroring pair; and

    if the user chooses a read/write mode, setting said secondary volume to the read/write mode for input/output (I/O) requests from said external device and re-synchronizing the mirroring pair.

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13. (Original) A network storage virtualization method according to claim 12,

wherein when said secondary volume is set to the read only mode access to said

secondary volume is performed according to the steps of:

suspending synchronization of the mirroring pair including said primary

volume and said secondary volume;

permitting access to data on said secondary volume in response to an I/O

request via the host I/F; and

upon completion of said access, re-synchronizing the mirroring pair.

14. (Original) A network storage virtualization method according to claim 12,

wherein when said secondary volume is set to the read/write mode access to said

secondary volume is performed according to the steps of:

suspending synchronization of the mirroring pair including said primary

volume and said secondary volume;

permitting access to data on said secondary volume in response to an I/O

request via the host I/F; and

upon completion of said access, re-synchronizing the mirroring pair.

15-25. (Canceled)

26. (Currently Amended) A storage system ~~according to claim 25,~~comprising:

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a first network storage device which includes a primary volume;

a second network storage device which includes a secondary volume which is

a copied volume of the primary volume and volumes other than the secondary

volume; and

a virtualization apparatus, which is connected to each of said first and second

network storage devices, and allows a client connected via a network to access the

network storage devices as one virtual network storage system wherein said client is

permitted to access the network storage devices separate from said virtualization

apparatus,

wherein said first network storage device includes a disk interface (I/F) which

is connected to virtualization apparatus,

wherein a second network storage device includes a disk I/F which is

connected to said virtualization apparatus and a host I/F which is connectable to an

external device so as to permit said external device to access the network storage

devices separate from said virtualization apparatus,

wherein said external device is permitted to access said secondary volume

which is a copy of said primary volume and not permitted to access said volumes

other than said secondary volume,

wherein access control of said secondary volume is configured from outside of

said virtualization apparatus, and

wherein said access control of said secondary volume is configured by

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creating a mirroring pair between said primary volume and said secondary volume at a certain point in time by taking a complete initial copy of said primary volume and storing said complete initial copy in said secondary volume, receiving in said second storage device a suspend request, placing the mirroring pair into a suspend status to permit setting of the access control according to user selection, Hif the user chooses a read only mode, setting said secondary volume to the read only mode for input/output (I/O) requests from said external device and resynchronizing the mirroring pair, and if the user chooses a read/write mode, setting said secondary volume the read/write mode for input/output (I/O) requests from said external device and re-synchronizing the mirroring pair.

27. (Original) A storage system according to claim 26, wherein when said secondary volume is set to the read only mode access to said secondary volume is performed by suspending synchronization of the mirroring pair including said primary volume and said secondary volume, permitting access to data on said secondary volume in response to an I/O request via the host I/F, and upon completion of said access, re-synchronizing the mirroring pair.

28. (Currently Amended) A storage system according to claim 26 wherein when said secondary volume is set to the read/write mode access to said secondary volume is performed by suspending synchronization of the mirroring pair including

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said primary volume and said secondary volume, permitting access to data on said

secondary volume in response to an I/O request via the host I/F, and upon

completion of said access, re-synchronizing the mirroring pair.

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